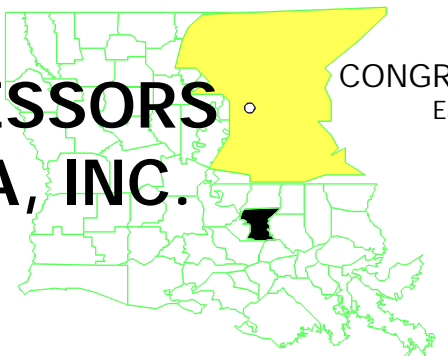


PETRO-PROCESSORS OF LOUISIANA, INC. LOUISIANA

EPA ID# LAD057482713



REGION 6

CONGRESSIONAL DISTRICT 06

East Baton Rouge Parish

Updated 8/01/00

Site Description

- Location:**
- ! The Petro Processors Inc. site consists of two locations near Scotlandville, East Baton Rouge Parish, Louisiana, about ten miles north of the City of Baton Rouge.
 - ! The Scenic Highway location (Site) is located just west of US Highway 61 and north of the intersection of Scenic Highway 964 and US Highway 61.
 - ! The Brooklawn location (Site) is located west, southwest of the Scenic location (Site).
- Population:**
- ! The community is predominantly rural with a few houses located about 800 to 1000 feet from the border of Scenic Highway location.
- Setting:**
- ! Nearest residence is about 3,000 feet from the site.
 - ! Nearest drinking water well is 3,000 ft. up gradient of the site.
 - ! The Petro Processors site comprises two former petrochemical disposal areas situated about 1.5 miles apart: the Scenic Highway and Brooklawn areas, totaling 77 acres.
 - ! Brooklawn is the larger of the two areas, currently estimated at 60 acres. Bayou Baton Rouge meanders around both Scenic and Brooklawn, and fingers out into Devil's Swamp.
 - ! Bayou Baton Rouge historically ran through both Brooklawn and Scenic, but was rerouted during remedial activities at each site.
 - ! Most of the Brooklawn area was covered by a soil cap, seeded, and contoured to control erosion. In 1994, a full scale treatment facility was constructed to treat contaminated ground water and non-aqueous phase liquids (NAPLs) recovered. Approximately 98 sumps are in operation at the Brooklawn location. Of the recovery wells installed to date, about 190 are in operation. Well installation will continue until a total of about 214 are in place.
 - ! The Brooklawn area still has one disposal pond which remains partially open ("Lower Lagoon") where drill cuttings (from recovery well installation) are deposited; all other pits and two former ponds ("Upper Lagoon" and "Cypress Swamp") have been filled and covered.
 - ! The Scenic area is now covered by a soil cap, seeded, and contoured to control erosion. Out of eleven (11) potential recovery well locations, seven (7) were proposed and approved to be used to recover NAPLs from the former pit area. Contaminated water with the NAPLs will be shipped to Brooklawn for treatment, disposal and destruction at the Brooklawn facilities.
 - ! Monitoring wells were installed at Scenic to study Natural Attenuation (NA) of the dissolved plume. Upon completion of the NA Study, a decision was made to proceed with constructing a hydraulic containment system similar to that employed at Brooklawn, removing the free phase, while allowing NA to occur in the groundwater containing dissolved contamination.

! This Scenic remedy also includes long term monitoring of groundwater, and monitoring of Natural Recovery (NR) of slightly contaminated sediments in portions of Bayou Baton Rouge between the Scenic site and Bakers Canal.

Hydrology: ! Portions of both sites are on the Bayou Baton Rouge flood plain.
! The bayou flood plain at Brooklawn is also on the Mississippi River flood plain; the Mississippi flood plain immediately south of Brooklawn (Devil's Swamp) is a Wetland.
! Pleistocene terrace deposits are predominately clays, while alluvium deposits are inter layered silty clays and sandy silts.
! The shallow ground water regime is referred to as the -40 MSL zone. The deep ground water regime of concern is the "400-foot sand".
! Receptor analysis modeling has been conducted (and is constantly updated with new information obtained from recovery well installation) to protect the "400-foot sand" at both locations. This effort includes use of MODFLOW and MT3D models.

Wastes and Volumes

! The site's principal pollutants are petrochemical wastes including the following:

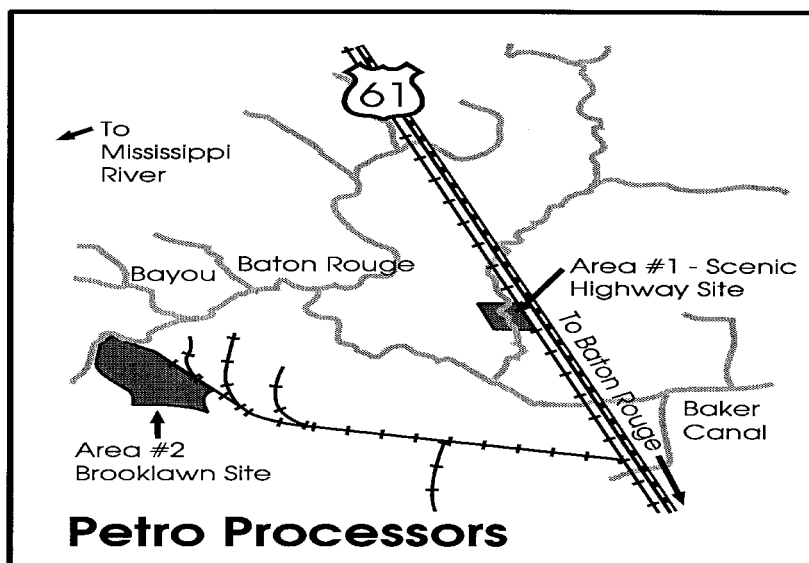
- Chlorinated Hydrocarbons (Hexachlorobutadiene and Hexachlorobenzene are predominant contaminants)
- Polycyclic Aromatic Hydrocarbons (PAHs)
- Heavy Metals
- Oils

Site Assessment and Ranking

NPL LISTING HISTORY

Site HRS Score: 41.44
Proposed Date: 9/8/83
Final Date: 9/21/84
NPL Update: No. 1

Site Map and Diagram



The Remediation Process

Site History:

! The Scenic Highway area originated as a borrow pit used for petrochemical waste disposal from 1961-1974. Brooklawn was opened in 1969 to accept petrochemical wastes since the Scenic area was filled to capacity. Operations at Brooklawn ceased in 1980, but ponds were left open to the elements.

! Although filled and closed in 1974, the potential for leachate migration and erosion of the Scenic pit was of concern due to the hazardous constituents contained in the pit.

! In July 1980, the United States, the State of Louisiana, the City of Baton Rouge, and the Parish of East Baton Rouge filed suit against Petro Processors, Inc. and several generators which had materials transported to the site. A Consent Decree (CD) for site closure was eventually developed with the participation of all parties and entered into the Federal Court's record on February 16, 1984.

! The CD required the Defendants to investigate, design and implement a conceptual remedial action specified in the CD. The conceptual remedy generally called for the excavation and solidification of all visible contamination at the site and subsequent placement into an on site landfill with an "appropriate" liner and leachate collection system. Potential remedies included the solidification, incineration, or off site disposal of all nonaqueous phase wastes within the lagoons. In addition, recovery wells were to be installed and operated in those areas where free phase organic liquids are present.

! Shortly after the entering of the CD, the Industry Defendants (through a company they set up known as NPC Services, Inc.) prepared workplans, conducted investigations, and prepared a Remedial

Design and Construction Plan which detailed site remediation activities. Unfortunately, during the early phases of construction (late 1987) NPC's air monitoring program detected the release of volatile hazardous substances from the Brooklawn site. NPC determined that vapor emissions were, or could be, generated from several sources.

! NPC subsequently reported in a Supplemental Remedial Action Plan ("SRAP") dated December 1988 that, "After a thorough study of the causes and effects of these releases it was determined that remediation could not continue under the approved plan without causing further releases." Under the terms of the CD, NPC was then required to examine alternate methods of remediation. The SRAP presented NPC's evaluation of alternate remediation methods.

! The various alternatives investigated by NPC included (1) modification of the original closure plan by modifying excavation techniques and deploying typical emission source controls such as foams, water sprays, visqueen and soil covers, (2) in situ volatilization, (3) bioremediation, (4) incineration, (5) solvent extraction, (6) in situ solidification and capping, (7) vapor containment structures and (8) hydraulic containment and recovery. NPC determined that hydraulic recovery and containment was the only technology that could be safely employed at that time due primarily to the potential for vapor emissions problems caused by implementation of the other technologies.

! Upon review, EPA Region 6 rejected the SRAP because it did not contain a sufficiently rigorous evaluation of the alternate technologies. The EPA subsequently embarked upon its own review of possible alternative remediation technologies. Upon completion of its eighteen-month long study, the EPA concluded that two other technologies in addition to hydraulic containment and recovery had merit. These two alternatives included air/steam stripping and in situ soil flushing. However, the EPA recognized that these technologies needed to be bench-scale and pilot tested before implementation.

! The Federal Judge recognized EPA's concern and ordered Louisiana State University (LSU) to conduct research on the applicability of alternate technologies and to act as his expert witness to resolve technical disputes between the Industry Defendants and the EPA.

! The end result of all the discussions between the EPA, the State of Louisiana and the NPC was an amended Consent Decree in 1989 which specified the implementation of hydraulic containment and recovery. NPC subsequently began additional investigations, design and construction activities necessary to implement the new remedy.

Health Considerations:

! Spontaneous ignition of the waste resulted in fires in the upper lagoon on several occasions.

! In 1969, a spill from the lagoons contaminated portions of a nearby ranch and 30 cattle were killed.

! Site is located over the "400-foot sands", a major drinking water aquifer.

Other Environmental Risks:

! Lagoons at the Site were located in the Mississippi River flood plain.

! Bayou Baton Rouge flows by both sites and fingers into Devil's Swamp, a Wetland area adjacent to both Scenic and Brooklawn. This area is used for recreational hunting and fishing. Currently a State health advisory covers a portion of Devil's Swamp and Devil's Lake.

Record of Decision

Signed: Consent Decree 1984
Amended: Consent Decree 1989

! The existing 1984 Consent Decree and 1989 Amendment are a framework for a Source Control and Ground water Containment Remedial Action (RA) for the Petro Processors Site.

! The SRAP, incorporated by reference into the CD, calls for a system of about 200 recovery and containment wells at the Brooklawn Site, following capping of the contaminated lagoons. A similar system has been designed for Scenic and will be used in addition to the Natural Attenuation processes occurring in the groundwater and Natural Recovery in stream sediments.

Community Involvement

- ! Community Involvement Plan: Developed 10/84, revised 01/88, 03/91, and current version 5/91.
- ! Open houses and workshops: 9/89, 7/90, 1/91, 3/94, 6/94 (Site Tour), 7/94.
- ! Original Proposed Plan Fact Sheet and Public Meeting: N/A.
- ! Original ROD Fact Sheet: N/A.
- ! Milestone Fact Sheets and Site Updates: 07/87 press releases; 02/89; 9/89, 10/89, 06/90, 02/91 (common questions answered), 3/91, 9/91, 3/94, 10/94, 11/94, 3/97.
- ! Citizens on site mailing list: 112
- ! Constituency Interest: Concerned. Odors, contamination of air, surface and ground water, PRP oversight.
- ! Site Repository: Reception/guard facility at Brooklawn main operations area.

Technical Assistance Grant

- ! Availability Notice: None
- ! Letters of Intent Received:
 - 1) 9/18/90 - Coalition for Community Action (CCA);
 - 2) LOI notice published 10/14/90.
- ! Final Application Received: 01/23/91
- ! Grant Award: 09/04/91 to CCA
- ! Budget period: 10/01/91-09/30/94
- ! Current Status: CCA selected Wilma Subra as their technical advisor on 7/25/92, and utilized the TAG funds for review of site technical documents. After completing this work the group requested close-out of the grant, which was done in October 1994.
- ! Current Status: TAG closed on 04/21/95.

Contacts

! **Remedial Project Manager:** Bartolome J Cañellas, 214-665-6662, EPA (6SF-LP)
! **State Contact:** Glen Miller (LDEQ)
! **Community Involvement:** Bartolome J Cañellas, 214-665-6662, EPA (6SF-LP)
! **Attorney:** Jonathan Weisberg, 214-665-2180, EPA (6RC-S)
! **State Coordinator:** Susan Jenkins, 214-665-6578, EPA (6SF-LT)
! **Prime Contractor:** TechLaw - Enforcement Support, EPA
NPC, Inc. - PRPs' Remedial Company

Enforcement

! CD entered into the Record on February 17, 1984.
! The CD did not provide for recovery of future oversight costs. The CD provided for recovery of past costs expended prior to the CD (total equal to \$600,000 per Section 26 of the CD).

Present Status and Issues

! The existing 1984 CD and 1989 Amendment are a framework for a Source Control and Ground water Containment Remedial Action (RA) for the Petro Processors Site. Site boundaries have evolved to encompass all areas where contaminants have migrated and are well defined by Remedial Planning Activities (RPAs) reports, incorporated by reference into the Consent Decree.

! All contaminated source areas at both sites, except the lower lagoon at Brooklawn, are capped. Sumps and wells are operational for containment and recovery of NAPLs at Brooklawn.

! A full scale treatment facility operates at the Brooklawn location to manage contaminated ground water and organics recovered from Brooklawn and those planned to be recovered from Scenic. The treatment scheme includes the following: 1) Phase separate water and organics; 2) air strip contaminated water; 3) incinerate fumes from air strippers and incinerate organic liquids from phase separation units; 4) polish treated water via carbon adsorption; and 5) discharge the water via a National Pollutant Discharge Elimination System (NPDES) permit. This constitutes or is known as the Liquid Treatment And Disposal System (LTADS).

! A trial burn was completed November 7, 1994, and the LTADS facility became fully operational.

! Wells have been installed at Scenic for recovery of DNAPLs from the former pit area, and natural attenuation of the dissolved plume will be quantified and monitored to ensure remedial goals are being met. As part of the hydraulic containment and recovery, Scenic recovered contaminated liquids will be transported to the Brooklawn site for treatment at the LTADS. Scenic remedial activities also include monitoring of the groundwater, and monitoring of Natural Recovery of stream sediments.

! The Scenic Remedial Planning Activities (RPA) report, Addendum D, was approved by the EPA in late July 1999. Construction activities (installation of well pumps, electrical, controls, piping, liquids transfer facility, etc.) started around September 1999 and were completed in January 2000. Recovery operations were started in February 2000.

! As of October 1998, the Brooklawn recovery system includes approximately 190 recovery wells and 98 recovery sumps. The Scenic recovery system includes 7 recovery wells.

! As of June 2000, recovery operations are ongoing at the Brooklawn and Scenic sites. Recovered liquids go into the LTADS for treatment and disposal.

! A Brooklawn updated Remedial Planning Activities (RPA) report, Addendum D is being prepared to be submitted early next year and will include activities in the swamp area immediately next to the Brooklawn site.

! Photographs showing current and past conditions before the remedial actions, are available in the EPA Internet pages at URL <http://www.epa.gov/earth1r6/6sf/6sf-la.htm>

Benefits

! The rerouting of Bayou Baton Rouge and the engineered clay caps covering the Brooklawn and Scenic Sites have reduced the migration of site contaminants and prevented air emissions from the source areas and exposure to nearby industries and residences.

! The French drain system in Cypress Swamp and the recovery wells at Brooklawn have also helped to control migration of contaminants in the subsurface.

! Construction of the full scale treatment facility, for contaminated ground water and recovered organics, has ensured continued operation of the hydraulic containment and recovery system to the maximum extent practical.

! Continued research by LSU to enhance recovery of organics at the sites will also ensure that remedy implementation is successful to the maximum extent practical, given the site complexities encountered to date.

! Risk Assessment work at the site (air risk assessment completed, indirect risk assessment for incinerator completed, and ongoing ecological and human health assessments for the surrounding wetlands environment) will help ensure that technologies being implemented are protective of human health and the environment.